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AUTHOR Dutton, Jeffrey E.; Blanford, Barbara A.
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ABSTRACT

This survey concerns the enrollment of junior year students in specified areas or fields during the fall of 1972. Its aim was to obtain information about trends in choice of major field in advance of the usual data on baccalaureates granted and thus to assist graduate departments in planning for enrollments in specified areas. Over all fields, junior year enrollment increased 3.2% from fall 1971 to fall 1972. The largest increase occurred in the major area of health professions (19.5%) and was largest in the public universities (25.8%). The life sciences were next, increasing by 12.8% in junior year enrollment. The applied social sciences and business and commerce were the next two, showing overall increases of 8.3% and 7.1% respectively. Moderate gains were noted in the public sector and slight losses noted in the private sector. (HS)

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Report

Survey No. 12 April 23, 1973

# Enrollment of Junior-Year Students (1971 and 1972)

Jeffrey E. Dutton
Barbara A. Blandford

This survey of the Higher Education Panel (HEP), initiated in September 1972, concerns the enrollment of junior-year students in specified areas or fields during the fall of 1972. Its aim was to obtain information about trends in choice of major field in advance of the usual data on baccalaureates granted and thus to assist graduate departments in planning for enrollments in specified areas.

The questionnaire was mailed to 414 institutions out of the population of 1,523 four-year institutions. (See Appendix A for a description of the sampling and weighting procedures.) Responses were received from 348 institutions, for a response rate of 84 percent. Each respondent was asked to indicate the junior-year enrollment in certain defined fields during fall 1971 and fall 1972. (See Appendix B for a copy of the survey instrument and Appendix C for a list of major fields and their definitions.) For purposes of this survey, a junior-year student was defined as one who had completed two full-time years (or the equivalent in part-time study) of degree-credit work and who was enrolled for the third year of such work. This definition covers third-year preprofessional students but not students enrolled

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HE 004 392

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solely for the first professional degrees. Double or split majors were categorized in the field of greater specialization.

## Discussion

The data from this survey are reported in seven tables. These tables show weighted population estimates, confidence intervals associated with these estimates, and percentage changes between 1971 and 1972 separately for the following categories: all institutions, public universities, private universities, public four-year colleges, and private four-year colleges. All calculations exclude students who had not declared majors by their junior year.

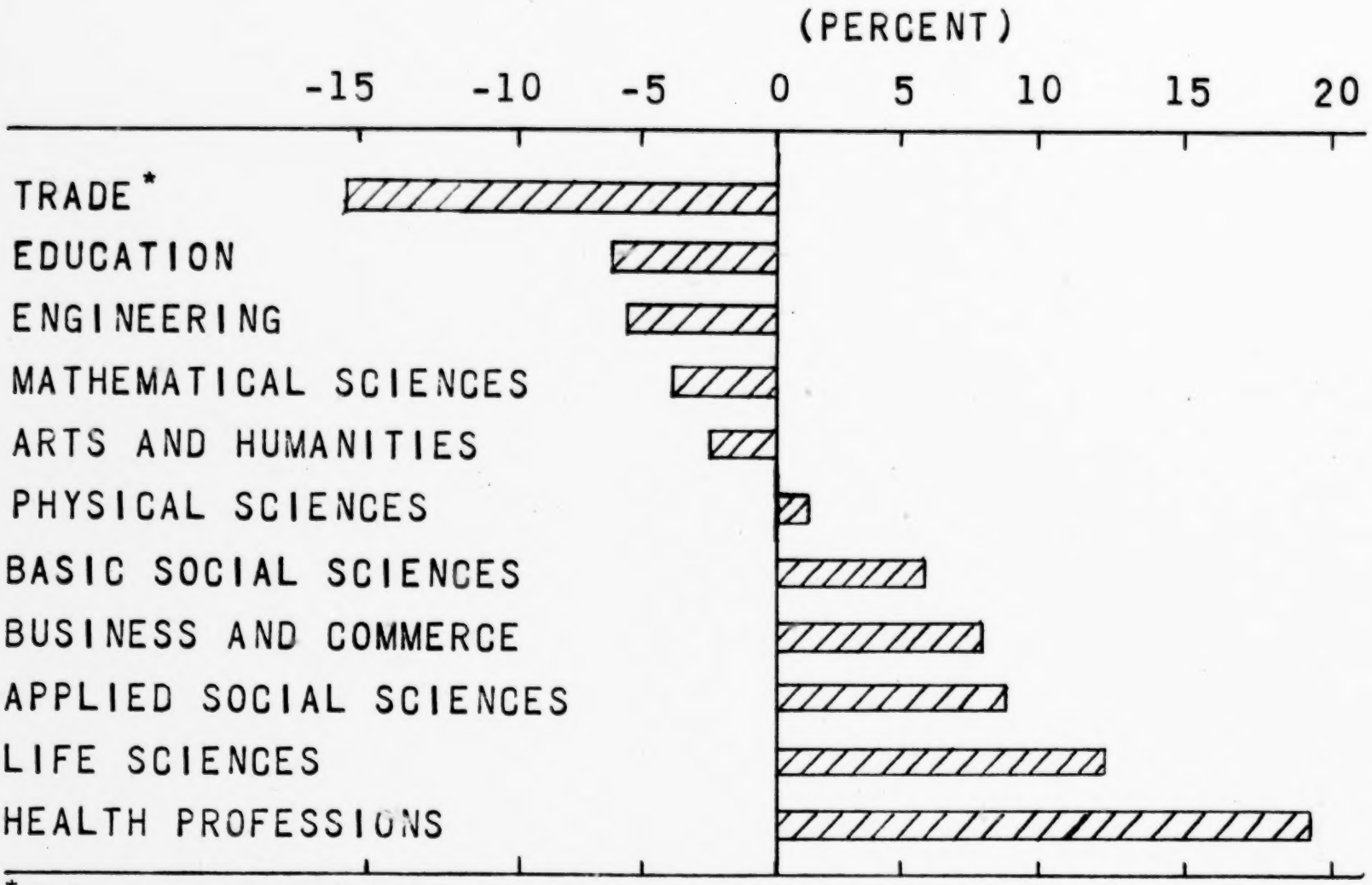
Over all fields, junior-year enrollment increased 3.2 percent from the fall of 1971 to the fall of 1972. The largest increase occurred in the major area of health professions (19.5 percent) and was largest in the public universities (25.8 percent). The life sciences were next, increasing by 12.8 percent in junior-year enrollment; again, this growth was most evident in the public universities (21.4 percent). The applied social sciences and business and commerce were the next two, showing overall increases of 8.3 percent and 7.1 percent respectively. The basic social sciences also increased in enrollment from 1971 to 1972 (5.6 percent). Moderate gains were noted in the public sector and slight losses noted in the private sector. The final major field showing an increase was physical sciences posting an increase of 1.9 percent. Both public and private universities show an increase in enrollment in the physical sciences while the four-year colleges show slight decreases.

Between fall 1971 and fall 1972, enrollment in education and engineering declined consistently across the four types of institutions. Mathematical sciences declined in all but the private university sector and arts and humanities declined in all but the public university sector. In both instances the increases were moderate, approximating two percent. Trade and industrial training showed an increase in both public universities and public four-year colleges.

The percent change in junior-year enrollment has been greatest in public institutions. Public universities have posted the greatest gain (5.8 percent), public four-year colleges have increased 2.4 percent, while the private sector has increased its junior-year enrollment only 1.1 percent.

Figure 1

# PERCENT CHANGE IN MAJORS DECLARED BY JUNIOR-YEAR STUDENTS, 1971 TO 1972




* **Trade only - weights based** on ratio of population institutions to sample institutions (see Appendix for further explanation).

Table 1

Field Enrollment of Junior-Year Students at
All Institutions
(N = 1,523)

| Major Area or Field | Number of Junior-Year Students Enrolled | | | | |
|---|---|---|---|---|---|
| | Fall 1971 | Confidence Interval* | Fall 1972 | Confidence Interval* | Percent Change |
| Arts and Humanities | 214,433 | 21,587 | 208,580 | 25,787 | -2.7 |
| English and Journalism | 63,225 | 6,448 | 58,985 | 7,498 | -6.7 |
| Foreign Languages | 18,787 | 3,641 | 18,339 | 3,627 | -2.4 |
| History | 44,885 | 5,102 | 41,012 | 6,167 | -8.6 |
| Other Arts and Humanities | 89,793 | 11,072 | 93,133 | 12,158 | 3.7 |
| Business and Commerce | 143,370 | 20,664 | 153,523 | 21,915 | 7.1 |
| Education | 152,829 | 27,186 | 144,549 | 21,849 | -5.4 |
| Engineering | 47,750 | 4,367 | 45,222 | 4,854 | -5.3 |
| Health Professions | 43,151 | 5,802 | 51,563 | 6,055 | 19.5 |
| Medical Technology | 4,982 | 648 | 5,942 | 667 | 19.3 |
| Nursing | 19,477 | 1,559 | 22,600 | 1,503 | 16.0 |
| Occupational Therapy | 849 | 305 | 824 | 209 | -2.9 |
| Pharmacy | 6,272 | 2,244 | 7,769 | 2,021 | 23.9 |
| Physical Therapy | 1,239 | 697 | 2,657 | 509 | 114.4 |
| Speech Pathology/ Audiology | 7,772 | 627 | 7,347 | 585 | -5.5 |
| Other Health Professions ** | 7,633 | 4,015 | 8,964 | 601 | 17.4 |
| Life Sciences | 78,451 | 7,256 | 88,501 | 8,435 | 12.8 |
| Predental | 3,304 | 937 | 2,128 | 937 | -35.6 |
| Premedical | 7,325 | 3,039 | 10,100 | 3,037 | 37.9 |
| Preveterinary | 763 | 340 | 1,447 | 188 | 89.6 |
| Basic Medical Sciences | 2,531 | 846 | 2,526 | 497 | -.2 |
| Biology | 30,654 | 4,699 | 40,123 | 4,960 | 30.9 |
| Botany | 1,422 | 157 | 1,860 | 128 | 30.8 |
| Zoology ** | 5,608 | 1,551 | 6,437 | 1,273 | 14.8 |
| Other Life Sciences | 21,685 | 6,389 | 22,126 | 7,349 | 2.0 |
| Mathematical Sciences | 33,208 | 2,663 | 31,760 | 3,045 | -4.4 |
| Physical Sciences | 27,017 | 2,296 | 27,537 | 2,286 | 1.9 |
| Chemistry | 12,529 | 982 | 12,890 | 1,124 | 2.9 |
| Physics | 6,179 | 618 | 5,920 | 534 | -4.2 |
| Other Physical Sciences | 9,206 | 1,228 | 9,590 | 1,095 | 4.2 |
| Basic Social Sciences | 163,207 | 15,843 | 172,330 | 17,069 | 5.6 |
| Psychology | 49,922 | 4,585 | 53,234 | 5,025 | 6.6 |
| Other Basic Social Sciences | 113,483 | 13,190 | 119,321 | 13,039 | 5.1 |
| Applied Social Sciences | 15,609 | 4,517 | 16,900 | 4,091 | 8.3 |
| Trade and Industrial Training** | 11,579 | 5,256 | 9,810 | 4,591 | -15.3 |
| All Other Fields | 98,827 | 60,745 | 102,314 | 59,113 | 3.5 |
| TOTAL JUNIOR YEAR ENROLLMENT | 1,076,475 | 128,629 | 1,110,860 | 129,885 | 3.2 |

* 95% confidence interval (interpreted as + or -). ** Weights based on the ratio of population institutions to sample institutions (See Appendix A for further explanation)

Table 2

Field Enrollment of Junior-Year Students in

All Public Institutions
(N=492)

| Major Area or Field | Number of Junior-Year Students Enrolled: Fall 1971 | Confidence Interval* | Fall 1972 | Confidence Interval* | Percent Change |
|---|---|---|---|---|---|
| Arts and Humanities | 137,246 | 21,233 | 136,161 | 25,483 | -.8 |
| English and Journalism | 42,568 | 6,343 | 40,482 | 7,402 | -4.9 |
| Foreign Languages | 11,666 | 3,605 | 11,294 | 3,583 | -3.2 |
| History | 27,567 | 4,958 | 25,972 | 6,040 | -5.8 |
| Other Arts and Humanities | 56,146 | 10,667 | 59,567 | 11,807 | 6.1 |
| Business and Commerce | 105,298 | 20,420 | 112,375 | 21,744 | 6.7 |
| Education | 123,245 | 27,018 | 116,020 | 21,586 | -5.9 |
| Engineering | 34,493 | 3,854 | 32,878 | 4,281 | -4.7 |
| Health Professions | 31,032 | 5,613 | 36,797 | 5,921 | 18.6 |
| Medical Technology | 3,695 | 625 | 4,445 | 643 | 20.3 |
| Nursing | 12,049 | 1,469 | 14,071 | 1,414 | 16.8 |
| Occupational Therapy | 769 | 305 | 744 | 208 | -3.2 |
| Pharmacy | 4,930 | 2,235 | 6,249 | 2,006 | 26.7 |
| Physical Therapy | 457 | 689 | 832 | 441 | 82.1 |
| Speech Pathology/Audiology | 6,178 | 574 | 5,629 | 576 | -8.9 |
| Other Health Professions** | 6,514 | 3,972 | 7,472 | 4,245 | 14.7 |
| Life Sciences | 56,611 | 7,062 | 63,508 | 8,250 | 12.2 |
| Predental | 2,630 | 622 | 1,478 | 580 | -43.8 |
| Premedical | 6,066 | 2,788 | 8,408 | 2,624 | 38.6 |
| Preveterinary | 752 | 340 | 1,433 | 188 | 90.6 |
| Basic Medical Sciences | 1,894 | 782 | 2,072 | 418 | 9.4 |
| Biology | 17,258 | 4,576 | 24,536 | 4,827 | 42.2 |
| Botany | 1,302 | 156 | 1,824 | 128 | 35.2 |
| Zoology | 5,049 | 15,431 | 5.824 | 1,271 | 15.3 |
| Other Life Sciences ** | 19,211 | 6,304 | 19,653 | 7,282 | 2.3 |
| Mathematical Sciences | 23,879 | 2,557 | 22,719 | 2,967 | -4.9 |
| Physical Sciences | 17,965 | 2,182 | 18,374 | 2,117 | 2.3 |
| Chemistry | 7,436 | 907 | 7,853 | 1,040 | 5.6 |
| Physics | 3,769 | 583 | 3,745 | 494 | .6 |
| Other Physical Sciences | 7,650 | 1,170 | 7,757 | 994 | 1.4 |
| Basic Social Sciences | 107,676 | 15,617 | 117,640 | 16,847 | 9.2 |
| Psychology | 31,833 | 4,459 | 34,722 | 4,897 | 9.1 |
| Other Basic Social Sciences | 75,988 | 13,008 | 83,119 | 12,860 | 9.4 |
| Applied Social Sciences | 13,713 | 4,485 | 14,097 | 4,003 | 2.8 |
| Trade and Industrial Training** | 9,099 | 4,771 | 8,693 | 4,869 | -4.5 |
| All Other Fields | 85,846 | 60,662 | 91,717 | 59,040 | 6.8 |
| TOTAL JUNIOR YEAR ENROLLMENT | 780,790 | 128,265 | 811,847 | 129,447 | 4.0 |

* 95% confidence interval (interpreted as + or -). ** Weights based on the ratio of population institutions to sample institutions. (See Appendix A for further explanation)

Table 3

Enrollment of Junior-Year Students By Field in
All Private Institutions

(N=1031)

| Major Area or Field | Number of Junior-Year Students Enrolled | | | | Percent Change |
|---|---|---|---|---|---|
| | Fall 1971 | Confidence Interval* | Fall 1972 | Confidence Interval* | |
| Arts and Humanities | 77,187 | 3,891 | 72,419 | 3,947 | -6.2 |
| English and Journalism | 20,656 | 1,160 | 18,503 | 1,191 | -10.4 |
| Foreign Languages | 7,121 | 507 | 7,045 | 561 | -13.1 |
| History | 17,318 | 1,202 | 15,040 | 1,243 | -13.1 |
| Other Arts and Humanities | 33,647 | 2,966 | 33,566 | 2,901 | -.2 |
| Business and Commerce | 38,072 | 3,166 | 41,149 | 2,727 | 8.1 |
| Education | 29,584 | 3,019 | 28,529 | 3,383 | -3.6 |
| Engineering | 13,256 | 2,054 | 12,345 | 2,287 | -6.9 |
| Health Professions | 12,119 | 1,470 | 14,765 | 1,268 | 21.8 |
| Medical Technology | 1,287 | 173 | 1,497 | 177 | 16.3 |
| Nursing | 7,427 | 520 | 8,529 | 511 | 14.8 |
| Occupational Therapy | 80 | -- | 80 | -- | .0 |
| Pharmacy | 1,341 | 197 | 1,520 | 241 | 13.3 |
| Physical Therapy | 782 | 108 | 1,826 | 252 | 133.5 |
| Speech Pathology/Audiology | 1,594 | 251 | 1,717 | 104 | 7.7 |
| Other Health Professions** | 1,119 | 587 | 1,492 | 687 | 33.3 |
| Life Sciences | 21,840 | 1,664 | 24,994 | 1,759 | 14.4 |
| Predental | 673 | 701 | 651 | 736 | -3.3 |
| Premedical | 1,259 | 1,210 | 1,693 | 1,529 | 34.5 |
| Preveterinary | 11 | -- | 14 | -- | 27.3 |
| Basic Medical Sciences | 637 | 322 | 454 | 269 | -30.9 |
| Biology | 13,396 | 1,070 | 15,587 | 1,143 | 16.4 |
| Botany | 121 | 14 | 100 | 4 | -17.3 |
| Zoology | 560 | 154 | 613 | 53 | 9.5 |
| Other Life Sciences** | 2,474 | 1,038 | 2,473 | 989 | 0.0 |
| Mathematical Sciences | 9,328 | 742 | 9,040 | 684 | -3.1 |
| Physical Sciences | 9,052 | 715 | 9,163 | 864 | 1.2 |
| Chemistry | 5,093 | 376 | 5,037 | 424 | -1.1 |
| Physics | 2,411 | 206 | 2,175 | 204 | -9.8 |
| Other Physical Sciences | 1,556 | 372 | 2,033 | 460 | 30.6 |
| Basic Social Sciences | 55,531 | 2,673 | 54,690 | 2,744 | -1.5 |
| Psychology | 18,089 | 1,066 | 18,512 | 1,125 | 2.3 |
| Other Basic Social Sciences | 37,495 | 2,182 | 36,202 | 2,154 | -3.4 |
| Applied Social Sciences | 1,895 | 537 | 2,803 | 847 | 47.9 |
| Trade and Industrial Training** | 2,480 | 2,205 | 1,117 | 896 | -54.9 |
| All Other Fields | 12,981 | 3,165 | 10,597 | 2,926 | -18.4 |
| TOTAL JUNIOR YEAR ENROLLMENT | 295,685 | 9,677 | 298,833 | 10,432 | 1.1 |

* 95% confidence interval (interpreted as + or -). ** Weights based on the ratio of population institutions to sample institutions (See Appendix A for further explanation)

Table 4

Field Enrollment of Junior-Year Students at
All Public Universities
(N = 119)

| Major Area or Field | Number of Junior-Year Students Enrolled | | | | |
|---|---|---|---|---|---|
| | Fall 1971 | Confidence Interval* | Fall 1972 | Confidence Interval* | Percent Change |
| Arts and Humanities | 60,740 | 10,685 | 61,893 | 9,630 | 1.9 |
| English and Journalism | 19,524 | 3,689 | 18,823 | 3,121 | -3.6 |
| Foreign Languages | 4,716 | 3,352 | 4,742 | 3,134 | .5 |
| History | 10,139 | 2,359 | 9,842 | 1,983 | -2.9 |
| Other Arts and Humanities | 27,314 | 7,528 | 29,541 | 7,467 | 8.9 |
| Business and Commerce | 43,840 | 13,781 | 45,599 | 11,701 | 4.0 |
| Education | 49,052 | 23,175 | 45,939 | 18,268 | -6.3 |
| Engineering | 21,061 | 2,728 | 20,290 | 2,773 | -3.7 |
| Health Professions | 16,227 | 3,667 | 20,418 | 3,597 | 25.8 |
| Medical Technology | 2,047 | 421 | 2,263 | 421 | 10.5 |
| Nursing | 6,919 | 697 | 7,611 | 730 | 10.0 |
| Occupational Therapy | 699 | 305 | 666 | 197 | -.4 |
| Pharmacy | 4,250 | 2,220 | 5,316 | 1,962 | 25.1 |
| Physical Therapy | 371 | 688 | 714 | 439 | 92.4 |
| Speech Pathology/Audiology | 816 | 476 | 2,329 | 395 | 185.4 |
| Other Health Professions** | 1,802 | 968 | 2,447 | 1,196 | 35.8 |
| Life Sciences | 32,028 | 6,148 | 38,892 | 6,696 | 21.4 |
| Predental | 657 | 610 | 863 | 481 | 31.3 |
| Premedical | 2,967 | 2,787 | 3,424 | 2,620 | 15.4 |
| Preveterinary | 688 | 336 | 1,364 | 187 | 98.2 |
| Basic Medical Sciences | 1,226 | 769 | 1,295 | 378 | 5.6 |
| Biology | 6,087 | 2,650 | 10,406 | 2,684 | 70.9 |
| Botany | 271 | 138 | 322 | 108 | 16.2 |
| Zoology | 3,722 | 1,305 | 4,261 | 845 | 14.5 |
| Other Life Sciences** | 14,734 | 5,657 | 16,216 | 6,972 | 10.1 |
| Mathematical Sciences | 9,869 | 1,767 | 9,314 | 1,805 | -5.6 |
| Physical Sciences | 7,844 | 1,437 | 8,318 | 1,292 | 6.0 |
| Chemistry | 3,169 | 595 | 3,433 | 703 | 8.3 |
| Physics | 1,533 | 269 | 1,607 | 238 | 4.8 |
| Other Physical Sciences | 3,646 | 796 | 3,770 | 696 | 3.4 |
| Basic Social Sciences | 49,862 | 10,445 | 52,522 | 9,095 | 5.3 |
| Psychology | 13,573 | 2,704 | 14,828 | 2,594 | 9.2 |
| Other Basic Social Sciences | 36,183 | 9,782 | 37,601 | 8,342 | 3.9 |
| Applied Social Sciences | 5,358 | 1,096 | 5,509 | 1,271 | 2.8 |
| Trade and Industrial Training** | 4,782 | 3,752 | 4,253 | 3,457 | -11.1 |
| All Other Fields | 55,305 | 60,071 | 61,690 | 58,619 | 11.5 |
| TOTAL JUNIOR YEAR ENROLLMENT | 368,837 | 107,852 | 390,113 | 98,150 | 5.8 |

* 95% confidence interval (interpreted as + or -). ** Weights based on the ratio of population institutions to sample institutions (See Appendix A for further explanation)

Table 5

Field Enrollment of Junior-Year Students at
All Private Universities
(N = 67)

| Major Area or Field | Number of Junior-Year Students Enrolled | | | | |
|---|---|---|---|---|---|
| | Fall 1971 | Confidence Interval* | Fall 1972 | Confidence Interval* | Percent Change |
| Arts and Humanities | 20,300 | 1,471 | 19,166 | 1,690 | -5.6 |
| English and Journalism | 5,717 | 576 | 5,472 | 603 | -4.3 |
| Foreign Languages | 1,892 | 192 | 1,884 | 222 | -.4 |
| History | 4,097 | 532 | 3,674 | 643 | -10.3 |
| Other Arts and Humanities | 9,885 | 1,199 | 9,432 | 1,165 | -4.6 |
| Business and Commerce | 10,404 | 1,235 | 10,637 | 1,104 | .4 |
| Education | 5,235 | 1,482 | 4,860 | 1,514 | -7.2 |
| Engineering | 5,384 | 1,811 | 4,893 | 2,138 | -9.1 |
| Health Professions | 4,683 | 696 | 5,530 | 915 | 15.7 |
| Medical Technology | 205 | 65 | 198 | 95 | -3.4 |
| Nursing | 2,534 | 240 | 3,218 | 325 | 26.9 |
| Occupational Therapy | -- | -- | -- | -- | -- |
| Pharmacy | 477 | 192 | 472 | 234 | -1.0 |
| Physical Therapy | 327 | 108 | 426 | 249 | 30.3 |
| Speech Pathology/Audiology | 1,413 | 191 | 1,215 | 83 | -14.0 |
| Other Health Professions | 459 | 430 | 566 | 507 | 20.3 |
| Life Sciences | 7,837 | 1,377 | 9,123 | 1,467 | 16.4 |
| Predental | 269 | 699 | 219 | 734 | -18.6 |
| Premedical | 824 | 1,209 | 1,145 | 1,527 | 39.0 |
| Preveterinary | -- | -- | -- | -- | -- |
| Basic Medical Sciences | 565 | 320 | 334 | 266 | -40.9 |
| Biology | 3,391 | 433 | 4,148 | 696 | 22.3 |
| Botany | 78 | -- | 54 | -- | -30.8 |
| Zoology | 480 | -- | 503 | -- | 4.8 |
| Other Life Sciences ** | 1,004 | 840 | 1,026 | 802 | 2.2 |
| Mathematical Sciences | 2,367 | 296 | 2,202 | 289 | -7.0 |
| Physical Sciences | 2,755 | 290 | 3,098 | 636 | 12.4 |
| Chemistry | 1,436 | 197 | 1,484 | 261 | 3.3 |
| Physics | 817 | 136 | 734 | 158 | -10.2 |
| Other Physical Sciences | 490 | 163 | 946 | 370 | 93.1 |
| Basic Social Sciences | 17,110 | 1,328 | 17,033 | 1,340 | -.5 |
| Psychology | 5,368 | 724 | 5,541 | 690 | 3.2 |
| Other Basic Social Sciences | 11,638 | 872 | 11,353 | 922 | -2.4 |
| Applied Social Sciences | 425 | 414 | 1,182 | 765 | 178.1 |
| Trade and Industrial Training ** | 348 | 525 | 758 | 655 | 117.8 |
| All Other Fields | 3,177 | 2,299 | 1,210 | 1,809 | -43.1 |
| TOTAL JUNIOR YEAR ENROLLMENT | 80,743 | 4,230 | 81,506 | 5,015 | .9 |

* 95% confidence interval (interpreted as + or -). **Weights based on the ratio of population institutions to sample institutions (See Appendix A for further explanation)

Table 6

Field Enrollment of Junior-Year Students at
All Public Four-Year Colleges
(N = 373)

| Major Area or Field | Number of Junior-Year Students Enrolled | | | | |
|---|---|---|---|---|---|
| | Fall 1971 | Confidence Interval* | Fall 1972 | Confidence Interval* | Percent Change |
| Arts and Humanities | 76,506 | 18,349 | 74,268 | 23,593 | -2.9 |
| English and Journalism | 23,044 | 5,160 | 21,660 | 6,712 | -6.0 |
| Foreign Languages | 6,950 | 1,328 | 6,552 | 1,738 | -5.7 |
| History | 17,428 | 4,361 | 16,130 | 5,705 | -7.4 |
| Other Arts and Humanities | 28,832 | 7,557 | 30,026 | 9,146 | 4.1 |
| Business and Commerce | 61,459 | 15,069 | 66,775 | 18,328 | 8.6 |
| Education | 74,193 | 13,889 | 70,081 | 11,498 | -5.5 |
| Engineering | 13,432 | 2,722 | 12,588 | 3,261 | -6.3 |
| Health Professions | 14,805 | 4,250 | 16,379 | 4,703 | 10.6 |
| Medical Technology | 1,648 | 462 | 2,182 | 486 | 32.4 |
| Nursing | 5,130 | 1,293 | 6,460 | 1,211 | 25.9 |
| Occupational Therapy | 70 | -- | 78 | -- | 11.4 |
| Pharmacy | 679 | 257 | 933 | 418 | 37.4 |
| Physical Therapy | 85 | 29 | 117 | 49 | 37.6 |
| Speech Pathology/Audiology | 5,362 | 321 | 3,301 | 419 | -38.4 |
| Other Health Professions** | 4,711 | 3,852 | 5,025 | 4,073 | 6.7 |
| Life Sciences | 24,584 | 3,476 | 24,616 | 4,819 | .1 |
| Predental | 1,973 | 122 | 615 | 324 | -68.8 |
| Premedical | 3,100 | 93 | 4,983 | 138 | 60.7 |
| Preveterinary | 63 | 53 | 69 | 20 | 9.5 |
| Basic Medical Sciences | 668 | 145 | 777 | 179 | 16.3 |
| Biology | 11,171 | 3,730 | 14,130 | 4,011 | 26.5 |
| Botany | 1,013 | 73 | 1,438 | 68 | 42.0 |
| Zoology | 1,327 | 824 | 1,563 | 950 | 17.8 |
| Other Life Sciences** | 4,477 | 2,782 | 3,437 | 2,102 | -23.2 |
| Mathematical Sciences | 14,010 | 1,849 | 13,405 | 2,355 | -4.3 |
| Physical Sciences | 10,121 | 1,642 | 10,056 | 1,677 | -.6 |
| Chemistry | 4,267 | 685 | 4,420 | 767 | 3.6 |
| Physics | 2,236 | 517 | 2,138 | 433 | -.1 |
| Other Physical Sciences | 4,004 | 857 | 3,786 | 709 | -5.4 |
| Basic Social Sciences | 57,814 | 11,609 | 65,119 | 14,181 | 12.6 |
| Psychology | 18,260 | 3,546 | 19,894 | 4,153 | 8.9 |
| Other Basic Social Sciences | 39,805 | 8,574 | 45,518 | 9,787 | 14.4 |
| Applied Social Sciences | 8,355 | 4,349 | 8,587 | 3,795 | 2.8 |
| Trade and Industrial Training** | 4,316 | 2,946 | 4,439 | 3,393 | 2.8 |
| All Other Fields | 30,542 | 8,451 | 30,027 | 7,042 | -1.7 |
| TOTAL JUNIOR YEAR ENROLLMENT | 411,953 | 69,425 | 421,734 | 84,427 | 2.4 |

* 95% confidence interval (interpreted as + or -). **Weights based on the ratio of population institutions to sample institutions (See Appendix A for further explanation)

Table 7

Field Enrollment of Junior-Year Students at
All Private Four-Year Colleges
(N = 964)

| Major Area or Field | Number of Junior-Year Students Enrolled | | | | Percent Change |
|---|---|---|---|---|---|
| | Fall 1971 | Confidence Interval* | Fall 1972 | Confidence Interval* | |
| Arts and Humanities | 56,887 | 3,602 | 53,253 | 3,567 | -6.4 |
| English and Journalism | 14,939 | 1,007 | 13,030 | 1,028 | -14.6 |
| Foreign Languages | 5,230 | 469 | 5,161 | 516 | -1.3 |
| History | 13,221 | 1,078 | 11,365 | 1,065 | -14.0 |
| Other Arts and Humanities | 23,763 | 2,713 | 24,134 | 2,657 | 1.6 |
| Business and Commerce | 27,668 | 2,916 | 30,512 | 2,493 | 10.3 |
| Education | 24,349 | 2,631 | 23,670 | 3,025 | -2.8 |
| Engineering | 7,873 | 971 | 7,452 | 813 | -5.3 |
| Health Professions | 7,437 | 1,295 | 9,236 | 877 | 24.2 |
| Medical Technology | 1,082 | 161 | 1,299 | 149 | 20.0 |
| Nursing | 4,893 | 462 | 5,311 | 395 | 8.5 |
| Occupational Therapy | 80 | -- | 80 | -- | 0 |
| Pharmacy | 865 | 45 | 1,048 | 59 | 21.2 |
| Physical Therapy | 455 | 11 | 1,400 | 39 | 207.7 |
| Speech Pathology/Audiology | 181 | 163 | 502 | 62 | 177.3 |
| Other Health Professions ** | 660 | 399 | 925 | 463 | 40.1 |
| Life Sciences | 14,003 | 933 | 15,870 | 971 | 1.3 |
| Predental | 404 | 51 | 432 | 47 | 6.9 |
| Premedical | 435 | 54 | 547 | 53 | 25.7 |
| Preveterinary | 11 | -- | 14 | -- | 27.3 |
| Basic Medical Sciences | 73 | 28 | 120 | 39 | 64.4 |
| Biology | 10,005 | 979 | 11,439 | 906 | 14.3 |
| Botany | 43 | 14 | 46 | 4 | 7.0 |
| Zoology | 80 | 154 | 110 | 53 | 37.5 |
| Other Life Sciences ** | 1,470 | 610 | 1,447 | 579 | -1.6 |
| Mathematical Sciences | 6,962 | 681 | 6,838 | 620 | -1.8 |
| Physical Sciences | 6,297 | 654 | 6,065 | 585 | -3.7 |
| Chemistry | 3,657 | 320 | 3,553 | 335 | -2.8 |
| Physics | 1,594 | 155 | 1,441 | 129 | -9.6 |
| Other Physical Sciences | 1,066 | 334 | 1,087 | 273 | 2.0 |
| Basic Social Sciences | 38,421 | 2,320 | 37,657 | 2,395 | -2.0 |
| Psychology | 12,720 | 783 | 12,970 | 888 | 1.9 |
| Other Basic Social Sciences | 25,857 | 2,000 | 24,849 | 1,947 | -3.9 |
| Applied Social Sciences | 1,470 | 342 | 1,621 | 364 | 10.3 |
| Trade and Industrial Training ** | 2,132 | 2,143 | 359 | 611 | -83.2 |
| All Other Fields | 9,805 | 2,175 | 9,387 | 2,300 | -4.3 |
| TOTAL JUNIOR YEAR ENROLLMENT | 214,942 | 8,704 | 217,327 | 9,147 | 1.1 |

* 95% confidence interval (interpreted as + or -). **Weights based on the ratio of population institutions to sample institutions (See Appendix A for further explanation)

## Appendix A

## Sampling and Weighting Procedures

The eligible population for this survey consisted of 1523 institutions (1252 predominantly white four-year colleges, 85 predominantly black four-year colleges, and undergraduate divisions of 186 universities. It is noted that the population counts represented in the tables of this report sum to 1491. The discrepancy between the eligible population of 1523 and the reported table count of 1491 is due to the codification of the available population figures. Data for "system" and "all campus" institutions were reported as one institution. Where more than one of the "system" institutions participated in the sample, the data were collapsed into a single record and identified as the "system" institution in both the population and sample. This procedure accounted for the reduction in population counts from 1523 to 1491.

Data on junior-year enrollments were solicited by mail from a sample of 414 institutions (27 percent of the eligible population). Returns were received from 348 institutions (84 percent). Of these, 21 were unable to provide data for 1971 and three were unable to provide data for 1972. Consequently, the enrollment data presented for fall 1971 is based on returns from 327 institutions, and the enrollment data for fall 1972 is based on returns from 345 institutions. Because of this differential response rate for the two years, data were weighted separately for each year to provide estimates of population enrollments and to increase the comparability of the data.

The population of 1491 institutions was classified into the following eight strata, defined by direct collapse of 26 strata used for universities and four-year colleges in the American Council on Education's Cooperative Institutional Research Program.

Stratum I: Public universities with Selectivity less than 550.

Stratum II: Public universities with Selectivity of 550 or more

Stratum III: Private universities

Stratum IV: Public four-year colleges with Selectivity 500 or unknown, and all public predominantly black institutions.

Stratum V: Public four-year institutions with Selectivity of 500 or more

Stratum VI: All four-year private nonsectarian colleges

Stratum VII: All four-year Roman Catholic colleges

Stratum VIII: All other sectarian four-year colleges

The junior-year enrollment estimates reported in the sample by responding institutions were weighted to provide aggregate estimates of population enrollments. The aggregate estimator used was:

$$X'_r = \sum_{h=1}^{L} \frac{Z_h \sum_{i=1}^{n_h} W_h X_{hi}}{\sum_{i=1}^{n_h} W_h z_{hi}}$$

where $W_h$ is a stratum weight, the ratio of the number of institutions in the population to that in the sample for the $h^{th}$ stratum.

$X_{hi}$ is the junior-year enrollment reported by the $i^{th}$ sample institution in the $h^{th}$ stratum.

$z_{hi}$ is the baccalaureate count in the corresponding field (or field aggregate) reported to HEGIS VI for the $i^{th}$ sample institution in the $h^{th}$ stratum.

$Z_h$ is the total baccalaureate count in the corresponding field (or field aggregate) reported to HEGIS VI for the $h^{th}$ stratum.

L is the number of strata defining a reporting category.

The HEGIS baccalaureate production information was used to provide a ratio adjustment factor in these estimates. In the absence of information

about junior-year enrollments by fields for each population institution (indeed the point of the sample survey), baccalaureate production was chosen as the most highly correlated information available for this adjustment. Note that separate ratio adjustments were made for each field estimate.

To estimate the precision of these estimators, the absolute variance was computed as:

$$\sigma_{\bar{X}_r'}^2 = \sigma_{\bar{X}}^2 + \sigma_{\bar{z}}^2 - 2r_{xy}\sigma_{\bar{X}}\sigma_{\bar{z}}$$

where $\sigma_X^2$ is the estimated population variance of the junior-year enrollments, $\sigma_z^2$ is the estimated population variance of the baccalaureate counts, and the last term is twice the covariance between them. Each of these terms were separately estimated from the sample data within strata and combined across strata to estimate the population variance in the reporting category, which consisted in each case of one or more strata.

The 95 percent confidence limits appearing in the tables were obtained by taking the square root of the absolute variance of the estimator and multiplying it by 1.96. Thus, the total junior-year enrollment of approximately 1.1 million estimated for each year has a confidence limit of approximately 129,000.

In the case of trade and industrial training fields, baccalaurate information was available only in combination with other engineering technologies, so that the estimate could not be ratio adjusted. The weights in each stratum were computed as the ratio of the cumulated enrollments for the population institutions to the enrollments for the sample institutions in that stratum. In some of the life sciences and health fields, only a single institution appeared in the sample in which case a variance estimate could not be derived.

The estimates presented for "Other Health Professions" and "Other Life Sciences" were derived using weights obtained by computing the ratio of the number of institutions in the population to the number of institutions in the sample for each stratum. This procedure was used since baccalaureate information for the sample institutions was minimal providing an insufficient base rate to justify the use of ratio estimation procedures.

Please note that the summation of estimates given for sub-fields within major disciplines will not equal the estimate given for the major discipline. Each sub-field was estimated using only those institutions which offered courses within the sub-field itself. Likewise the major discipline estimates were based on those institutions offering courses within the discipline. Table A1 reports for all institutions the number of institutions used to estimate each major area or field for the sample and the population. This procedure was implemented independently for each stratum. The number of institutions in Table A1 represents the field distributions for all institutions. Weights were derived for each field by year by stratum. The resulting range of weights for each field and year for the eight strata is also presented in Table A1.

Table A1

Sample and Weights Used in Computing National Enrollment Figures
All Institutions

| Major Area or Field | Number of Institutions In: | | | Stratum Weights (Range) | |
|---|---|---|---|---|---|
| | Population | 1971 Sample | 1972 Sample | 1971 | 1972 |
| Arts and Humanities | 1360 | 314 | 331 | 2.66- 7.65 | 2.66- 7.03 |
| English and Journalism | 1228 | 304 | 321 | 2.61- 7.44 | 2.61- 5.14 |
| Foreign Languages | 1119 | 277 | 295 | 2.62- 7.28 | 2.62- 6.58 |
| History | 1195 | 299 | 315 | 2.61- 7.27 | 2.61- 6.66 |
| Other Arts and Humanities | 1240 | 304 | 320 | 2.66- 6.75 | 2.66- 6.20 |
| Business and Commerce | 762 | 215 | 231 | 2.71- 7.21 | 2.70- 5.29 |
| Education | 1077 | 247 | 262 | 2.73- 7.78 | 2.83- 7.11 |
| Engineering | 389 | 100 | 112 | 2.50- 6.12 | 2.16- 5.53 |
| Health Professions | 611 | 164 | 186 | 2.68- 6.48 | 2.35- 5.71 |
| Medical Technology | 431 | 107 | 124 | 2.80- 6.23 | 2.44- 5.50 |
| Nursing | 290 | 92 | 107 | 2.20- 4.88 | 2.20- 3.69 |
| Occupational Therapy | 30 | 7 | 11 | 2.00- 5.50 | 1.50- 5.50 |
| Pharmacy | 76 | 27 | 31 | 1.33- 7.00 | 1.00- 7.00 |
| Physical Therapy | 72 | 20 | 32 | 1.50- 6.00 | 1.33- 4.00 |
| Speech Pathology/Audiology | 123 | 40 | 49 | 1.75- 4.00 | 1.60- 7.00 |
| Other Health Professions * | 1491 | 347 | 347 | 2.50- 7.60 | 2.50- 7.60 |
| Life Sciences | 1206 | 304 | 322 | 2.58- 7.61 | 2.58- 6.81 |
| Predental | 155 | 60 | 66 | 1.00- 5.43 | 1.00- 4.00 |
| Premedical | 206 | 93 | 108 | 1.00- 3.61 | 1.00- 3.36 |
| Preveterinary | 46 | 22 | 25 | 1.00- 4.25 | 1.00- 4.00 |
| Basic Medical Sciences | 131 | 45 | 48 | 1.50- 5.80 | 1.50- 5.00 |
| Biology | 1153 | 289 | 306 | 2.54- 7.50 | 2.54- 6.86 |
| Botany | 106 | 29 | 30 | 1.67-11.50 | 1.66-11.50 |
| Zoology | 137 | 31 | 33 | 2.27- 9.25 | 2.00- 9.25 |
| Other Life Sciences * | 1491 | 347 | 347 | 2.50- 7.60 | 2.50- 7.60 |
| Mathematical Sciences | 1188 | 305 | 322 | 2.69- 7.03 | 2.69- 6.46 |
| Physical Sciences | 1120 | 295 | 316 | 2.69- 7.12 | 2.69- 6.53 |
| Chemistry | 1068 | 291 | 310 | 2.69- 7.29 | 2.69- 6.65 |
| Physics | 723 | 234 | 249 | 2.11- 5.85 | 2.11- 5.24 |
| Other Physical Sciences | 544 | 156 | 173 | 2.42- 6.00 | 2.21- 5.54 |
| Basic Social Sciences | 1229 | 303 | 320 | 2.67- 7.64 | 2.66- 7.00 |
| Psychology | 1010 | 302 | 289 | 2.58- 6.62 | 2.58- 6.00 |
| Other Basic Social Sciences | 1208 | 299 | 316 | 2.67- 7.78 | 2.66- 7.11 |
| Applied Social Sciences | 317 | 109 | 116 | 1.86- 5.69 | 1.80- 5.00 |
| Trade and Industrial Training * | 1491 | 347 | 347 | 2.50- 7.60 | 2.50- 7.60 |
| All Other Fields | 886 | 258 | 273 | 2.69- 6.03 | 2.48- 5.36 |
| TOTAL JUNIOR YEAR ENROLLMENT | 1491 | 327 | 345 | 2.69- 8.15 | 2.69- 7.49 |

* Weights based on the ratio of population institutions to sample institutions (See Appendix for further explanation)

Appendix B

Higher Education Panel--Survey No. 12

Enrollment of Junior-Year Students By Field

| Major Area or Field | Number of Junior-Year Students Enrolled Fall 1971 | Fall 1972 |
|---|---|---|
| Arts and Humanities-TOTAL | [ ] | [ ] |
| English and Journalism | | |
| Foreign Languages | | |
| History | | |
| Other Arts and Humanities | | |
| Business and Commerce | [ ] | [ ] |
| Education | [ ] | [ ] |
| Engineering | [ ] | [ ] |
| Health Professions-TOTAL | [ ] | [ ] |
| Medical Technology | | |
| Nursing | | |
| Occupational Therapy | | |
| Pharmacy | | |
| Physical Therapy | | |
| Speech Pathology/Audiology | | |
| Other Health Professions | | |
| Life Sciences-TOTAL | [ ] | [ ] |
| Predental | | |
| Premedical | | |
| Preveterinary | | |
| Basic Medical Sciences | | |
| Biology | | |
| Botany | | |
| Zoology | | |
| Other Life Sciences | | |
| Mathematical Sciences | [ ] | [ ] |
| Physical Sciences-TOTAL | [ ] | [ ] |
| Chemistry | | |
| Physics | | |
| Other Physical Sciences | | |
| Basic Social Sciences-TOTAL | [ ] | [ ] |
| Psychology | | |
| Other Basic Social Sciences | | |
| Applied Social Sciences | [ ] | [ ] |
| Trade and Industrial Training | [ ] | [ ] |
| All Other Fields | [ ] | [ ] |
| Undeclared | [ ] | [ ] |
| TOTAL JUNIOR-YEAR ENROLLMENT | | |

Appendix C

Definitions of Major Areas or Fields

Other Arts and Humanities: Includes Architecture, Fine and Applied arts, Philosophy, Religion, etc.

Education: Includes specialized teaching fields such as Education of the Handicapped, and Art Education, general teaching fields such as Elementary Education, and other education fields such as Rehabilitation Counselor Training, etc. Do not include students who are preparing to teach academic subjects such as English, Biology, Mathematics, etc. They should be reported in their academic area of specialization.

Health Professions: Includes those students preparing for Nursing, Pharmacy, and the allied health fields. Do not include students enrolled solely for first professional degrees. Premedical, Predental, and Preveterinary students should be reported in the separate items under Life Sciences.

Other Health Professions: Includes Radiological Technology, Hospital and Health Care Administration, Dental Hygiene, and other allied and public health fields.

Basic Medical Sciences: Includes Anatomy, Biochemistry, Biometrics and Biostatistics, Biophysics, Cell Biology, Microbiology, Molecular Biology, Neuroscience, Pathology, Pharmacology, Physiology, Radio Biology, Toxicology.

Other Life Sciences: Includes Agriculture, Forestry, Ecology, Embryology, Entomology, Genetics, Nutrition, Plant Physiology, Plant Pathology, etc.

Mathematical Sciences: Includes Mathematics, Statistics, Computer Sciences, Data Processing, Systems Analysis, and all related fields.

Other Physical Sciences: Includes Astronomy, Atmospheric Sciences and Meteorology, Geology, Geophysics, Metallurgy, Oceanography, Paleontology, Pharmaceutical Chemistry, etc.

Other Basic Social Sciences: Includes Anthropology, Economics, Geography, International Relations, Political Science, Government, Sociology, and General Social Sciences. History students should be reported as a separate item in Arts and Humanities.

Applied Social Sciences: Includes Industrial Relations, Public Administration, Social Work, and other applied fields.

Trade and Industrial Training: Includes students in four-year programs in such fields as Light Building Construction, Heating and Ventilation, Airplane Mechanics, Automotive Maintenance, etc. Do not include the training of teachers in such fields.

All other fields: Includes all fields other than those separately indicated. For example, City Planning, Folklore, Home Economics, Prelaw, Library Science, Military Science.

Undeclared: Includes all junior-year students who have not declared a major.

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